CBDPP Plan Review Meeting
Albuquerque, NM
December 9–11, 1997

Meeting Summary

BACKGROUND

DOE federal and contractor officials responsible for Chronic Beryllium Disease Prevention Program (CBDPP) plan development, review, and approval attended the working meeting hosted by the Albuquerque Operations Office at the Energy Training Complex, Kirtland Air Force Base West, Albuquerque, New Mexico. Attendance included representatives from LANL, DOE-OH, DOE-RL, Pantex, KAO, LLNL, EH, DP, DOE-CH, ANL, DOE-AL, DOE-OAK, ORNL, Y-12, ETTP, DOE-OR, DOE-RF, and SNL/NM. A complete participants list can be obtained from the DOE EH Beryllium Website at *http://tis-nt.eh.doe.gov/be/*.

The purpose of the meeting was to collectively review, in an informal setting, the CBDPP plans submitted in response to DOE Notice 440.1, "Interim Chronic Beryllium Disease Prevention Program." Specifically, meeting discussion focused on (1) establishing an appropriate level of consistency between plan provisions while recognizing differences in the level of site involvement with beryllium, and (2) establishing a clear understanding of costs associated with the implementation of CBDPP Plans and schedules for implementation and incorporation into site budgets.

Summary sheets of site responses to the CBDPP Plan Review Checklist, compiled by EH representatives, were used to facilitate and focus the discussion the first and second days of the meeting with regard to required CBDPP program elements. Rick Cameron, DOE-AL Site Programs Division, presented an overview of the development and use of the checklist (Attachment 1). Participants were given an opportunity to discuss and modify their plans during breakout sessions on the third day of the meeting, as well as discuss cost estimates and impacts.

FIELD OFFICE PERSPECTIVES

Field Office representatives provided their perspectives of and issues with the CBDPP Plans. Mike Garcia, DOE-AL, presented the results of recent AL CBDPP reviews that had been conducted at LANL, Pantex, KCP, Sandia/NM, and Y-12, including findings and concerns at each site (Attachment 2). AL expressed a need for guidance regarding medical surveillance, a concern over the cost of implementation, and the concern that full impacts could not be assessed until baseline inventories were completed.

Other issues identified by field office representatives included minimization of workers exposed at RFFO where they have a high turnover/transient group of subcontractors. RFFO identified efforts to minimize the number of workers exposed by proposing a leased (or fixed) set of beryllium workers. Mound issues were based on the fact that their facility is under a closure contract and funding is severely limited. Mound also identified a loss of historical information

and sources as it has been a number of years since the facility has worked with beryllium. A number of sites under the Chicago Operations Office (ANL-E, ANL-W, Fermilab) who have had limited uses of beryllium cited cost and the scope of the medical surveillance program as major issues. DOE-OR stated that they have many trace levels of beryllium waste and need clarification as to defining a "Be mixture". Cost is also an issue at OR as budget tradeoffs must be made for program implementation.

GENERAL ISSUES

The plans highlighted different personnel with responsibilities and accountability for the CBDPP including but not limited to line managers, supervisors, waste management, nurses, foremen, investigators, beryllium workers, industrial hygienists, medical personnel, trainers, ES&H personnel, subcontractors, and work planners. Some plans contained separate responsibilities sections while others discussed responsibilities throughout the document.

Participants were reminded that each site needs to address integration of DOE N 440.1 into Integrated Safety Management plans and Work Smart set of standards as appropriate at each site.

The plans varied with regard to implementation and the use of multi-disciplinary teams. While some cited the use of multi-disciplinary teams, others cited Industrial Hygiene Department leads for implementing the CBDPP.

Many sites had not specified provisions for preliminary performance goals in the draft plans. Participants discussed the need for defining and including a protocol/approach to setting reasonable goals in the plans.

OPERATIONS, PLANS, AND PROCEDURES

Participants addressed site documentation of facility operations for current and past uses of beryllium including scope of the assessment (i.e., How much is enough?), costs, and the use of survey sampling. A breakout group was formed to discuss development of a protocol. Three options were presented to meeting participants (Attachment 3).

Sites generally used one of two different approaches to developing safety plans to address beryllium hazards: some integrating beryllium into existing work plans; others creating separate plans (i.e., Y-12 Beryllium Work Plan) based on the particular needs of the site.

OCCUPATIONAL EXPOSURE LIMITS (OEL)

Sites discussed various exposure assessment protocols for assuring exposures remain below OELs including a risk ranking process with a threshold of 1.0 ug/m^3, 100 percent monitoring for initial characterization, determination of task-based exposure assessment needs, and 100 percent monitoring of limited/infrequent Be work activities each time the activity is performed.

The plans cited different site-specific administrative action levels to trigger the use of respiratory

protection and initiate surface contamination cleanup across the complex and across operations/tasks. Sites were reminded to document the rationale and judgments used in setting these levels in their plans. The attendees agreed that site CBDPP plans would include administrative action levels of 0.5 ug/m^3.

A breakout group was formed to discuss a consensus regarding “clean” levels for beryllium work areas.

BASELINE INVENTORY

Plans and checklists showed sites were in various stages of conducting baseline inventories of beryllium locations and operations, from proposed to fully completed.

When defining a mechanism to identify exposed and potentially exposed current workers who are identified by work location and activity, site approaches varied to include the use of surveys, setting priority groups based on relationship with the beryllium area, inclusion of everyone who enters a beryllium area in the medical surveillance program, completion of job hazards questionnaires, and historical review of records.

HAZARD ASSESSMENT

Site status of hazard assessments also varied and many sites stated that in-depth analyses were performed on all hazard assessments, but that the type and degree of assessment was dependent upon factors such as type of operation, exposure frequency, risk code, etc.

Some participants mentioned having difficulty in determining beryllium “legacy areas.”

EXPOSURE MONITORING

With regard to monitoring all workers exposed or potentially exposed or monitoring a limited subset, many sites discussed performing 100 percent monitoring until operations were fully characterized. Sites with small or infrequent beryllium use stated that they perform 100 percent sampling each time that a beryllium operation occurs.

Others mentioned that the situation dictates the level of sampling to be conducted and that statistical tools are available (NIOSH) to help determine a level.

Monitoring for short-term exposures is performed when feasible and generally depends on the operation and professional judgment of the industrial hygienist.

Most sites cited uses of surface sampling to determine housekeeping conditions and identify contamination. Surface action levels varied across the sites.

Participants were urged to give some consideration in their budgets for the evaluation of emerging exposure monitoring technology.

EXPOSURE CONTROL, REDUCTION AND MINIMIZATION

Participants discussed use of the standard hierarchy of controls (engineering, administrative, personal protective equipment) to control exposure at their respective sites. Specific approaches were identified such as the use of closed circuit televisions to limit access to those that do not necessarily have to be on the shop floor (LANL). Issues and controls for laundering were also discussed that included sampling of dryers and lint bins, disposal of PPE after use at sites with infrequent or limited beryllium use, inclusion of laundry workers in the CBDPP, and use of separate laundries for different hazardous materials.

Exposure reduction and minimization goals were discussed and sites were urged to document the rationale, decision process, and any assumptions used in determining goals in the plans.

MEDICAL SURVEILLANCE

Medical surveillance and the scope of the program was a major issue for meeting participants. Specific issues raised included inclusion of former workers in the program, identification of workers at risk for CBD, use of a prioritized, phased-in approach to surveillance (Attachment 4), medical removal versus alternate placement and associated legal issues, continued medical surveillance at sites that have been closed or privatized, frequency of x-rays and lymphocyte proliferation testing (LPT), and revival of the beryllium registry.

Participants generally agreed that Dr. Bob Jones' phased-in medical surveillance approach (Attachment 4) was feasible and would help sites deal with the cost burden by spreading the program over a number of years.

Issues were tabled for future discussion in a separate teleconference with site medical officers.

TRAINING

Sites shared their training programs, most of which included different levels of training for different work activities, such as awareness training, facility/operation specific training, and on-the-job training. In some instances, awareness training was identified as part of general employee training (GET). Rocky Flats discussed their use of computer-based training. Some sites used TRADE resources/materials.

Awareness training was recommended as a good opportunity to increase communication with workers. In addition, having workers diagnosed with CBD and/or their spouses talk to others about the hazards, disease, and impacts to family and life was identified as an excellent tool for increasing awareness.

Medical and other health and safety personnel were also identified for inclusion in training programs so they can readily identify the disease especially at sites with limited beryllium involvement.

Further discussion included the possibility of DOE holding a seminar to brief the industrial hygiene community on beryllium.

RECORDKEEPING

Participants reported use of different types of databases, some relational, to facilitate recordkeeping. Oak Ridge, Idaho, and Hanford were identified as sites that already have systems in place that may be available for use by others. Sites were encouraged to set up links, if not already in place, between work activities, exposure monitoring, and medical surveillance results. A recommended set of data elements is available on the DOE EH Beryllium Website at http://tis-nt.eh.doe.gov/be/. Other records identified as important to be maintained included CBD investigation reports, inventory, hazard assessment, controls, and work plans.

PERFORMANCE FEEDBACK

Sites discussed the use of annual or periodic analysis and assessment of monitoring and medical surveillance results, goals, hazards identified, etc. Participants mentioned the use of user-friendly (easy to understand, read, and convey message) approaches/reports and monthly safety meetings to facilitate feedback of information. Feedback to the workers was identified as a key element of performance feedback and the continuous improvement of the program.

COST

Y-12 and LANL presented their approaches to estimating implementation costs for certain elements of the CBDPP (Attachments 5-9).

PATH FORWARD

- Conduct a teleconference on December 18, 1997 to discuss remaining medical surveillance issues.
- Finalize, submit, and have DOE approved contractor CBDPP plans by January 15, 1998.
- Continue to plan for program implementation in site budgets.
- Plan on potential meeting in May 1998 timeframe for exchange of lessons learned and discussion of additional issues associated with CBDPP plan implementation.

ATTACHMENT 1

CBDPP Plan Checklist
Presented by Rick Cameron, DOE-AL

Slide 1
CBDPP Plan Checklist
December 9, 1997

Mike Garcia, OSHD, AL
Rick Cameron, SPD, AL

Slide 2
- Developed by AL
    - Cheryl Lucas, EASI
    - Mike Garcia, Occupational Safety and Health Division
    - Rick Cameron, Site Programs Division

Slide 3
- Documents Reviewed
    - DOE N440.1
    - Implementation Guide
    - DP Good Practices Guide
    - Current Regulations

Slide 4
- Checklist used during the reviews at LANL, Pantex, Kansas City Plant, and Y-12.

Slide 5
- How did AL use the Checklist?
    - Was forwarded to each site prior to the reviews
    - Provided discussion points for the site visits
    - Assured all the elements of the notice were considered by the sites and included in the plans.

Slide 6
- Summary
    - Provided a systematic approach
    - Highlighted critical issues
    - Enhanced efficiency and thoroughness

ATTACHMENT 2

AL CBDPP Review
Presented by Mike Garcia, DOE-AL

Slide 1
AL CBDPP Review
Perspective
December 9, 1997

Mike Garcia, OSHD

Rick Cameron, SPD, AL

Slide 2
Participants

- DOE/AL
- DOE/AL Area Offices
- DOE/AL Contractors
- DOE/HQ (DP and EH)

Slide 3
- AL Review Sites
    - LANL
      September 8-12, 1997
    - Pantex Plant, Kansas City Plant, Y-12 Plant
      November 17-21, 1997
    - Sandia National Laboratory/NM
      December 8, 1997

Slide 4
Review Scope

- Operations
    - Site Visits, Documentation, Discussion
- CBDPP Plan
- Costs
    - FY1998 and Outyear Costs

Slide 5
- Site Contacts, Site or Area Office and Contractors
    - Line Management
    - Industrial Hygiene
    - Occupational Medicine
    - Contracts
    - Budget/Finance

Slide 6
- Operations: Be metal processing, (e.g., machining, etc.), Be R&D, dynamic testing, lab scale operations, D&D, and associated maintenance.

- Scale of Operations:
    - 5 Locations
    - Approximately 50 Staff

Slide 7
LANL
- Findings
    - Plan is developed to meet operations
    - Work is ongoing to implement program
    - New Beryllium Technology Facility benchmarked against US and UK facilities and designed to be best in class
    - Maintenance Contractor, JCI-NNM, was awarded and in the process of integration with LANL's Work Smart program

Slide 8
LANL

- Concerns
    - Population for medical surveillance has not been adequately characterized
    - Until baseline inventory is completed, full impacts cannot be assessed

Slide 9
Pantex Plant

- Operations:
  Dimilitarization/Sanitization, Weapon Assembly and Disassembly (articles), D&D
- Scale of Operations:
    - Various Locations
    - Approximately 25 Staff

Slide 10
Pantex Plant

- Findings
    - Plan is developed to meet operations
    - Work is ongoing to implement program
    - Engineering changes and relocation anticipated for some operations

Slide 11
Pantex Plan

- Concerns
    - Population for medical surveillance has not been adequately characterized
    - Until baseline inventory is completed, full impacts cannot be assessed

Slide 12
Kansas City Plant

- Operations: Sporadic BeCu machining, approximately 150 parts/yr.
- Scale of Operations:
    - One location
    - 2 Staff

Slide 13
Kansas City Plant

- Findings
    - Plan is developed to meet operations
    - Work is ongoing to implement program

Slide 14
Kansas City Plant

- Concern
    - Identification of the current workers to be included in Be medical surveillance program.

Slide 15
Sandia National Labs/NM
- Operations: Lab Scale Operations, Radiation Generating Device

- Scale of Operations:
    - Lab scale operations at various locations

- 3 active Be workers

Slide 16
Sandia National Labs/NM

- Findings
  - Excluded from the Notice (OSHA Lab Standard 29 CFR 1910.1450 applies)
  - Elements of the Notice were developed into a plan
  - Work is ongoing to implement a CBDPP under existing Integrated Safety Management System

Slide 17
Sandia National Labs/NM

- Concerns
  - Until baseline inventory is completed, full impacts cannot be assessed
  - Medical surveillance for former Be workers

Slide 18
Y-12 Plant

- Findings
  - Y-12 Site Office is responsible for CBDPP Plan
  - AL review implementation costs
    - Tiered approach for plan implementation
    - Mission related workload receiving highest priority

Slide 19
Summary

- Guidance for medical surveillance needed
- Cost of implementation a concern at the sites. No incremental funding available for FY98
- Characterization of current and former operations will impact final program scope and cost

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ATTACHMENT 3

Site Documentation of Facility Operations for Current and Past Uses of Beryllium Breakout Session Results

Presented by Harvey Grasso, DOE-OAK

Step 1

H&S Professional makes range of options available for Line Management with +'s and -'s

<u>3 Potential Methods</u>

1.
- Fully Characterized Statistical Data with 95% Confidence
- No Process Knowledge
- No Professional Judgment

+'s

- Tech. Base
- Defensible

-'s
Cost > $2x10^6$

2.
- Professional Judgement and Process Knowledge

  (used to rule out areas where no Be is suspected ∴ smaller footprint)
- Statistical Samples

  +'s

  - Less Cost ≃ $76K
  - Easier to Carry out
  - Good Confidence for High Potential Be Areas

  - 's
  Use of Professional Judgment

  ∴ may miss some Be

3. No Stats

Use Only: Professional Judgment & Process Knowledge

Check Areas Suspected to Contain Be i.e., dusty/dust accumulation

+'s

Lease Cost ≃ 11K
Easy to Carryout
Timely

-'s Least Defensible
Total Reliance on Historical Data & Prof. Judgement.

Step 2
Management Selects Method Which Fits with Mission and Available $s.

Step 3
Put Selected Method in Plan Along with the Following Info:
- Where is Be
- When was Be used
- What form was Be used
- How much was used
- How long was it used
- Who used the Be

ATTACHMENT 4

BERYLLIUM MEDICAL SURVEILLANCE PROGRAM PLAN
IT IS ASSUMED THAT THERE IS SOME SORT OF DOSE RESPONSE RELATIONSHIP

1. Perform an inventory of plant or laboratory sites where beryllium has been handled or stored in the past or at

the present time.

2. Determine which current employees have been associated with the identified sites either in the past or at the present time. (include subcontract workers as appropriate)
   A. Use the following sources to identify employees:
      - Employment records
      - Building records
      - Safety and health records
      - Occupational medical records
      - Security records
      - Employee questionnaire

3. Initially assign all employees into one of the following priority groups based on the type of work performed.
   A. Direct handling of beryllium metal, alloys or finished parts or maintenance personnel.
   B. Indirect potential exposure to beryllium dust i.e., janitorial, I.H. personnel.
   C. Incidental potential exposure i.e., visitors to beryllium work areas i.e. project managers, DOE officials.
   D. Remote potential for exposure i.e., worked in non-beryllium area of Be site i.e. clerks, messengers, and secretaries.
   E. No potential for exposure i.e., rest of employees.

4. Use all available sources to confirm where employees should be placed in the priority system.
   A. Plant or laboratory records
   B. Beryllium controlled area sign in records
   C. More detailed employee questionnaire
   D. Personal interviews

5. Issue phased invitations to participate in surveillance program based on potential for exposure i.e., 3-A. through D. Do not invite group E. to participate unless there is a high incidence of LPT positive responders in groups 3. C and D.

* Phasing not only permits the timely scheduling and completion of examinations and LPT but the results from the first group will provide information to guide which additional groups should be included in the program. This will also control and spread out the costs associated with compliance with the DOE order.

ATTACHMENT 5

Cost Estimation: Beryllium Baseline Inventory

Presented by Jim Jenkins, OR Y-12 Plant

Slide 1
- Centralize Beryllium Records
- Establish Organized Records Holding Center
- Develop Potential Location List
- Assess Beryllium Risk
- Designate and Post Areas
- Develop Location List
- Costs

Slide 2
Diagram

Slide 3
Diagram

Slide 4

Beryllium Records Holding Center

- Administration
  - Schedule
  - Tracking
  - Manual
  - Access Protocol
  - Forms
  - Supervision
- Electronic Media
  - Archived VAX Files
  - Copy Files
  - Review Format
  - Define Field & Columns
  - Verify Required Fields
  - Format for Present Data Base
  - Print Out
  - Verify Data Against Hard Copy Original
  - Place on Present System

Slide 5

Diagram

Slide 6

Assess Beryllium Risk

- List of Potential Locations
- Establish Organizational Ownership
- Field Survey
  - Industrial Hygiene & Line Management
  - Interviews
  - Walkthroughs
  - Process Knowledge
  - Historical Sampling Data
  - Sampling (Not Required at that Time)
- Completed Prior to DOE N 440.1
- Further Characterized Under CBDPP
  - 1st Year Implementation for Active Areas
  - 2nd Year Implementation for Inactive Areas
  - Characterization
  - Sampling

Slide 7

Designate & Post Areas

- Information
  - Walkthroughs
  - Interviews
  - Process Knowledge
  - Professional Judgment
  - Historical Sampling Data
  - Sampling Data
- Designation
  - Beryllium Area
  - Regulated Beryllium Area
  - Other Than a Beryllium or Regulated Beryllium Area
- Posting

Beryllium Area
Regulated Beryllium Area

Slide 8
Develop Location List
List of Areas Designated as Beryllium or Regulated Beryllium Areas
Building
Area (Floor)
Subarea (Room)
Active/Inactive
Organization
Issue Report
Update Periodically (Quarterly)
Under CBDPP Listing By Beryllium Activity Area

Slide 9
Example Form

Slide 10
Costs

INCURRED		
Be Records Holding Center	IH	1996.5 hrs @ $100/hr
	Subcontracts	960.0 hrs @ $14/hr
Field Surveys	Locations – 300	3 hrs @ $100/hr
Sampling	Smear - $73 @	Air - $170 @
Computing (VAX Data Copying)	Computing – 30.5 hrs @ $31/hr Data Systems – 7 hrs @ $54/hr	
Other (Admin, Info Mgmt Services, Etc.)	Not available	
	Total locations (300) – active locations (37) – lab locations (15) = locations to characterize	
PROJECTED		
Hazard Assessments	Locations – 248	2 hrs @ $95
Sampling	Locations – 248 (example)*	25 samples/location
	Smear - $73 @	

TOTAL: * This number of samples does not adequately address normally accepted confidence limits. (95% = 23 samples/10ft^2)

Slide 11
Costs
Incurred

Beryllium Records Holding Center	$326,303
Field Surveys	$85,500
Sampling	$6,088

Computing (VAX, Data Copying)	$1,757
Other (Admin, Info Mgmt. Services, Etc.)	$5,533
Subtotal	$425,181
Projected	
Characterizations	$47,120
Sampling	$452,600*
Subtotal	$499,720
Total	$924,901

*Dependent on statistical approach and level of confidence desired.

ATTACHMENT 6

Estimating Implementation Cost – Exposure Monitoring

Presented by Tom Ford, OR Y-12 Plant

Oak Ridge Y-12 Plant
Owner: U.S. Department of Energy

Managing and Operating Contractor: Lockheed Martin Energy Systems

Location: Bear Creek Valley of East Tennessee, adjacent to Oak Ridge, 15 miles from Knoxville

Size: 811 acres, spanning 2.5 miles, 250 buildings that house 7 million square feet of laboratory, machining, dismantlement, and research and development areas

Personnel On Site:
3,200 employees of the Y-12 Plant
1,540 Energy Systems central and engineering staff
475 Oak Ridge National Laboratory personnel
40 East Tennessee Technology Park personnel
450 U.S. Department of Energy personnel

Key Mission Areas
- Weapons Dismantlement, Storage, and Evaluation
- Enriched Uranium Material Warehousing and Management
- Process Technology and Development Support
- Manufacture/Rework
- Oak Ridge Centers for Manufacturing Technology
- Y-12 Site Management Services
- ORNL Programs

Approach to Estimating Exposure Monitoring Costs
- Multi Disciplinary Implementation Team
- Current Program Cost Analysis
- Notice Requirements vs. Mission Requirements and Management Expectations

Multi Disciplinary Team
- Line Managers
- Industrial Hygiene
- Program Management (Mission-Related)
- Analytical Services
- Health Services
- Labor Representation
- Maintenance and Utilities
- Development

Current Program Costs – Exposure Monitoring
- 60 personal samples/month (average)
- Cost per personal sample = $170* (burdened cost)
- $170/sample X 60 samples/month = $10,200/month
- Current annual cost = $122,400
- includes IH personnel, lab analysis, and data management costs

Notice Requirements vs. Mission Requirements and Management Expectations
Evaluation By Implementation Team
- Notice Requirements
- Y-12 Draft CBDPP Requirements
- Plant Mission Requirements
- Management Expectations

FY 1998 Exposure Monitoring Cost Estimate
Estimate 180 personal samples/month
180 samples/month X $170/sample = $30,600/month

FY 1998 Exposure Monitoring Cost = $367,200

ATTACHMENT 7

Rapid Secondary Ion Mass Spectrometer for Beryllium Analysis
Presented by Tom Ford, OR Y-12 Plant

Slide 1
RSIMS-BE

Rapid Secondary Ion Mass
Spectrometer for Beryllium Analysis

James A. Basford and Don W. Carver
Development Division, Oak Ridge Y-12 Plant
Lockheed Martin Energy Systems, Inc.
P.O. Box 2009
Oak Ridge, Tn 37831-8084

Telephone (423) 576-4337
Fax (423) 576-2782
EMAIL jbf@ornl.gov

Slide 2
Diagram

Slide 3
Principle of RSIMS

Sample Placed at Sample Port and Evacuated
High Energy Ions Ablate Sample Surface
Ions From Sample Separated in Mass Analyzer
Sample Ions Individually Counted
Results Calculated and Displayed

Note: Samples Analyzed at the Rate of One Per Minute

Slide 4
Advantages of RSIMS

Sensitivity to Beryllium
    >10,000 Times Background for 50 nanogram Sample
Speed of Analysis
    More than One Sample Per Minute
    Results Obtained Immediately
    Automatic Sample Feed
Sample Preparation
    None
Operator Training
    Minimal
Maintenance Required
    Yearly Pump Lubrication
    Filaments About Yearly
Samples Analyzed
    Any Solid Sample of Any Size
    Almost All Elements
    Isotopic Analysis Included

Slide 5
RSIMS

- Sensitivity is thought to be comparable to or better than ICP. Must be established
- Calibration required to obtain a “mass value” for particular element
- Currently do not have calibration standards for BeO-don’t think will be a show stopper
- No sample prep required
- Sample results within a minute (Analyze a sample per minute)
- Strictly surface measurement
- Use adhesive coated disc for swipes
- Analyze any element-can target one specific element or multiple group
- Isotopic analysis falls out
- Operable in field by non-technical personnel
- No waste generation
- Cost approximately $200K for fully operational unit
- Unit operational in field 4 months after receipt of funding

Slide 6
Current Status

New RSIMS Under Construction
Due On Line April 1, 1997

Copies of RSIMS
$200,000 Complete
RSIMS Delivery Time: 3 Months

ATTACHMENT 8

Medical Surveillance
Presented by Barbara Hargis, LANL

Slide 1
- "Offer to enroll in a medical surveillance program all workers at risk for chronic beryllium disease (CBD) due to exposure or potential exposure to beryllium."
- "Maintain an updated roster of workers at risk for CBD."
- "Provide on a voluntary basis, beryllium-specific LPT, or other available test."

Slide 2
- Costs Associated With Implementation:
- Program Administration
- Risk Communication
- Additional Medical Staff/Technician
- Costs of Be-LPT
- Follow-up Clinical Evaluation

Slide 3
- ~270 active employees in Beryllium Surveillance Program
- ~44 may decline (assuming cont. 16% declination rate)
- ~230 will accept
- 80-90 tested to date

Slide 4
- Inventory of LANL buildings/operations/records performed
- Program designed to identify workers in "higher" exposure groups for initial testing
- Workers in "incidental exposure group" will be evaluated based on estimated exposure

Slide 5
- 7000 UC/LANL employees
  ~3500 included based on acceptance rate at Rocky Flats and Oak Ridge
- JCNNM and PTLA ~2000 employees
  - All will participate
- Total Cost Estimated at ~$3.8 million which would be spread over three years

Slide 6
- Assumptions
  - Be-LPT screening for ~5600 current workers over three years using prioritized approach
  - Be-LPT @$250=$1.5M
  - Follow-up clinical evaluation of Be-LPT positives at National Jewish
  - 2% positive prevalence (true and false) @$8800=$1M

Slide 7
- Major Issues
  - HOW MUCH TESTING IS ENOUGH?
  - Lack of Medical Removal Provisions

Worker Compensation normally does not cover LPT Testing and follow-up exams unless disability involved

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ATTACHMENT 9

Cost Estimation: Beryllium Record Keeping

Presented by Jim Jenkins, OR Y-12 Plant

Slide 1
Sampling data receipt, computer input, handling
Monthly reports
Semi-annual reports
Other record keeping
Costs

Slide 2
Sampling data receipt, computer input, handling
(chart)

Slide 3
Monthly reports
- Personal breathing zone
- Area
- Permanent air
- Smear (routine)
- Smear (non-routine)
- Graphs

Slide 4
Semi-annual/annual reports

- Sampling Reports
  - Task exposure group personal breathing zone
  - Area
  - Permanent air
  - Smear (routine)
  - Smear (non-routine)
  - Graphs

- Correlation & Trending Reports
  - Working conditions and health outcomes

Slide 5
Other Record Keeping

Documentation	Action
Hazard Assessments	Input, Report, File
Beryllium Work Plans	File
Beryllium Work Plan Sign-In Sheets	File
All Reports Generated	File

Slide 6

Costs

Sampling Rate	Present	
	Average Samples/Month	435
	Average Samples/Year	5220
	Projected	
	Samples/Month	870-957
	Samples/Year	10440-11484
	Increase	5220-6264

		FTE
Sampling Data Receipt, Input, Handling	26 Minutes/Sample 18/26 work ratio	1.09-1.2
Monthly Reports	Estimated	0.4
Semi-Annual/Annual Reports	Estimated	0.08
Other Record Keeping	Estimated	0.2
Management	Estimated	0.12
Total		1.89-2.0